On the Reception of Descartes' Machine Psychology

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At the end of his *Treatise on Man*, Descartes claimed to have offered mechanistic explanations of the offices of the vegetative and sensitive souls in the animal body. Alluding to a previous list of vital functions (ranging from digestion to animal motion), he described the character of his explanations: "these functions follow completely naturally in this machine, solely from the disposition of its organs, no more nor less than do the motions of a clock or other automaton from the disposition of its counterweights and wheels" (AT 11:202). Many seventeenth authors, and many subsequent thinkers, took this (and other of Descartes' statements) to mean that he intended to explain all of the behavior of animals -- and of the human bodies counterfactually supposed to have no minds, which, in the Treatise, stood in for both nonhuman and human animal bodies -- through the interaction of matter in motion, invoking only the properties of size, shape, position, and local motion.

In the case of the offices of the sensitive soul, which include the operation of the external senses, imagination, and memory, and the production of situationally appropriate animal behavior, subsequent writers understood Descartes to be claiming to produce satisfactory explanations for the relevant phenomena without appealing to cognitive notions such as representation, cognition of "intentions" (such as the enmity of the wolf), or perception of benefits and harms. That is, they understood Descartes to claim to be able to explain, in a purely mechanistic fashion, how mindless animal bodies can pursue things that are beneficial for it, avoid things that are harmful, and adjust its behavior to new instances of such items. Such explanations constitute Descartes' "machine psychology." (Even if we take "psychology" in its sixteenth and seventeenth-century meaning, so that it includes the offices of the vegetative, sensitive, and rational souls, Descartes has claimed to mechanize the offices of the first two; hence, his mechanistic account of the offices of the sensitive soul is a proper part of his machine psychology.)

Recently, several scholars have questioned this interpretation of Descartes' explanatory intentions. In various ways, John Cottingham, Stephen Gaukroger, John Sutton, and others have indicated that Descartes actually attributed representation, felt sentience, and cognitive states to nonhuman animals. Some of these scholars invoke a principle of charity in supporting their interpretations of Descartes; that is, they argue that Descartes needed to attribute cognitive states to animals in order to form plausible explanations of the behaviors he intended to explain, and that because he needed to do so, a principle of charity supports the supposition that his words be read in such a way that he in fact did do so.

In previous papers, I have responded to the textual arguments of these authors and I have questioned the historiographical suitability of a principle of charity invoked in this way. In this talk, I intend to turn to another source of evidence for interpreting Descartes and for understanding his historical influence: the reception of his animal physiology and psychology by seventeenth-century medical writers and by composers of treatises on natural philosophy. (Sometimes these were the same, as in the case of Regius.) The intent is to learn how Descartes' animal psychology was read by a substantial number of his immediate followers. These subsequent readings do not settle the question of how to read Descartes, but they do provide relevant evidence concerning how his words were interpreted in their context, and how his words influenced subsequent thinkers.

In the last decade of his life, Descartes was already aware of the appropriation of his works by

professors of medicine and of natural philosophy at Utrecht and Leiden. He was in personal contact with some of these authors, and he corresponded with and about others. Further, in the three decades after his death, many physicians took up Descartes' animal physiology, in the Dutch and Spanish Netherlands and in France and Germany. In addition, several philosophers wrote comprehensive textbooks of philosophy "following the principles of Descartes"; these textbooks covered the full range of topics as found in Aristotelian textbooks, including the functions of the vegetative and sensitive souls. Hence, they addressed the question of how vital and animal functions, including animal behavior and its adjustment to circumstances, are to be explained. The phenomena to be accounted for included the flight of the sheep from the wolf (long a standard example), the training of pointing dogs in relation to hunting with guns (a more recent example, dating from 1590 or later), and the tendency of a dog to run from the sound of a violin if it has previously been whipped several times in the presence of that sound.

I will review aspects of the reception of Descartes' thought by these authors, focusing on the notion of a "clockwork" or horological account of the animal body, the denial of cognitive states to nonhuman animals, and the later comparison of Descartes to other actual or perceived followers, including Regius and Willis. In fact, although subsequent authors grouped Descartes with both of the authors just named, they grouped him more tightly with Regius than with Willis on the topic of animal cognition. In this connection, I will characterize some salient differences between the accounts of Descartes and Regius on the one hand, and Willis on the other.

If time permits, I will include some remarks on the historiography of reception as a means of understanding the historical situatedness and the philosophical upshot of the work of an intellectually prominent figure such as Descartes.